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Comprehensive Assessment of Ukraine's Budget Security in the Context of Military Threats

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Abstract:

Purpose: *The purpose of this article is to assess Ukraine's level of budget security under martial law, based on an empirical analysis of key fiscal indicators and multi-variant scenario forecasting for the medium-term period.*
Design/Methodology/Approach: *The assessment is built upon the normative framework of the Methodological Recommendations approved by the Ministry of Economic Development and Trade of Ukraine (2013). The research standardizes four fundamental indicators: the state budget deficit to GDP ratio, the general government sector fund balance, the level of GDP redistribution through the consolidated budget, and the public debt service and repayment ratio. Analytical forecasting is performed using linear trend functions and a scenario approach incorporating trend confidence intervals to account for high volatility under economic crisis conditions.*
Findings: *The study revealed a severe and structural deterioration in Ukraine's budget security following the full-scale military invasion. In 2023, the composite budget security level plummeted to a critical minimum of 6.7%, driven by the state budget deficit expanding beyond 20% of GDP and GDP redistribution rising to 47.48%. Conversely, temporary relief was observed in debt servicing due to successful restructuring. The regression analysis established a functional correlation confirming that a 1% increase in the budget security level corresponds to a +0.14% expansion in real GDP, with changes in GDP accounting for 55.9% of budget security dynamics. Predictive scenarios for 2024–2026 indicate that under a realistic trajectory, the indicator will remain within the absolutely dangerous zone (5.3–13.2%), and even under optimistic assumptions, it will not exceed critical thresholds (31.3–38.9%).*
Practical Implications: *The practical value of the paper lies in a structured set of anti-crisis measures tailored for wartime public financial management. These include the rigorous*

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reallocation of budget funds towards defence and essential social welfare, conducting comprehensive performance audits of state programs, optimizing tax legislation to mitigate the administrative burden on enterprises, and intensifying institutional cooperation with global creditors (IMF, World Bank, EU) to streamline external financial assistance.
Originality/Value: *The originality of the research lies in the improved methodological approach to evaluating how armed conflicts systematically shock public finances. By integrating a complex economic-statistical assessment with stochastic modelling, the study provides a robust empirical framework to isolate the acceleration of macroeconomic decline caused specifically by the erosion of budget security.*

Keywords: *Budget security, financial security, state budget policy, financial indicators.*

JEL Classification: *C82, E62, H56, H61.*

Paper type: *Research article.*

1. Introduction

From February 2014 onward, ongoing military conflicts and the occupation of Ukrainian territories have persistently posed significant risks to the nation's overall security, with a pronounced impact on its economic stability. The extensive invasion by the Russian Federation has inflicted severe damage on Ukraine's national economy, notably through the loss of economic capacity across roughly 20% of its land, which remains under occupation.

The large-scale invasion in 2022 resulted in an unprecedented 29.1% drop in real GDP, a 16.9% drop in consumption and a 9.5% drop in net exports (NBU, 2022). In 2023, Ukraine's economic situation stabilized and economic growth reached +5.3% of real GDP, inflation was 5.7%, and investment activity intensified (+52.9% compared to 2022) (NBU, 2023).

Given that the foundation for countering military threats lies in the state's effective anti-crisis governance and administration, the need to evaluate the trends and present condition of Ukraine's budget security throughout the entirety of the Russian intervention, beginning in 2014, has grown increasingly pressing.

A large amount of public debt, international loans on unfavourable terms, inefficient use of borrowed funds and unfavourable currency structure of the debt are signs of an unstable budget situation in Ukraine. This is accompanied by low-budget security indicators, which means a potential threat to the maintenance of sovereignty, stable functioning of the state and its sustainable socio-economic development.

In the face of current challenges, budget policy is becoming a key instrument of state influence on the economy and social processes. In Ukraine, the issue of budget policy is of great public interest, as its quality and parameters determine the level of social protection of the population, the country's investment potential and opportunities in the international arena. It also affects business activity and the welfare of citizens. As a result, budget policy often becomes an arena for conflicts between different social groups, which emphasizes the importance of further research in that area.

2. Literature Review

The issue of ensuring budget security has always attracted considerable interest from economists and management practitioners, as this aspect is key to maintaining macroeconomic stability and the balanced development of public finances.

The research under this study is mainly focused on analysing the level of public debt, considering the essence of the country's budget security and developing methodological approaches to assessing its state. In the authors' opinion, the issue of ensuring budget security is currently extremely important in Ukraine.

This is because the budget plays a critical role as a tool for improving the social protection of the population, regulating the country's socioeconomic development, maintaining the stability of the national economy and ensuring the accumulation of resources necessary for the implementation of the state's domestic and foreign policy.

Analysing the scientific texts on the topic of this article, it should be noted that the issue of budget security is the subject of research mainly by Ukrainian scholars. The above is the result of the fact that it was Ukraine that developed and approved at the legislative level the Methodological Recommendations for Calculating the Level of Economic Security of Ukraine (2013), which includes budget security. No similar regulations have been found in the legal framework of other countries.

Varnalii *et al.* (2020) established the theoretical and methodological groundwork for state policies aimed at safeguarding budget security. This includes defining the conceptual framework, positioning budget security within the broader system of national economic security, and outlining strategic priorities and criteria to enhance budget security policies. Their work seeks to foster a supportive macroeconomic environment and ensure financial stability.

Abakumova *et al.* (2020) explore the correlation between the digital development of society and budget security, emphasizing the importance of legal and information components in the formation of a budget security model. Abiodun *et al.* (2020) emphasize that despite significant defence budget expenditures in Nigeria, factors such as poor leadership and lack of a defence strategy undermine the country's stability, leading to a deterioration of security, including terrorist attacks and banditry.

Marko *et al.* (2021) analyse the financial threats to Ukraine's budget security, focusing on expenditures in security-forming sectors and the impact of that on national security. The authors formulate innovative methodological strategies for managing these risks, providing a foundation that can be utilized to devise a comprehensive plan for the advancement of the pertinent sectors.

Lysiak *et al.* (2021) propose a systematic assessment of the financial stability of local budgets using Kohonen maps, which makes it possible to identify budget imbalances and understand their causes in order to facilitate management decisions. Svirko *et al.* (2022) analyse the implementation of the state budget and its deficit and formulate new indicators for assessing budget security, emphasizing its low level and the need to improve the assessment methodology to improve management decisions in that area.

Bondaruk *et al.* (2023) examine the impact of Ukraine's budget policy on financial security in the context of the challenges associated with the COVID-19 pandemic and the military aggression of the Russian Federation. The authors demonstrate that, among numerous budget security indicators, the coefficients related to funding national functions and servicing public debt exert the most significant influence on Ukraine's financial security.

Aubakirova *et al.* (2023) emphasize the need to create a sufficient financial and economic base and an effective management system to address the issue of local government budget security. In their study, Nate *et al.* (2023) explore the methodology behind the openness index, focusing on the transparency of budgeting and financial oversight within Ukraine's defence and security sector during wartime. They pinpoint nine distinct indicators that influence the index's final value, employing both binary and scaled formats to evaluate their effects

Gasanov *et al.* (2024) study the impact of full-scale military operations on Ukraine's budget system, focusing on the increase in spending on defence, reconstruction and humanitarian aid. The authors emphasize the importance of strategic improvements in public financial management as part of the implementation of the Memorandum with the IMF, noting the positive impact of decentralization on the financial sustainability of local budgets.

Drawing from the literature review, it is evident that the comprehensive evaluation of Ukraine's budget security amidst military threats remains inadequately explored, necessitating further development and thorough investigation.

3. Research Methodology

The degree of budget security can be assessed using the guidelines outlined in the Order of the Ministry of Economic Development and Trade of Ukraine "On Approval of Methodological Recommendations for Calculating the Level of Economic Security

of Ukraine" No. 1277 (2013). These guidelines specify that the composite indicator of Ukraine's budget security is derived from four distinct metrics, as detailed in Table 1.

Table 1. *Methodology for calculating budget security indicators*

Indicator	**Calculation formula**
Ratio of deficit/surplus of the state budget to GDP, percentage	State Budget Deficit, UAH million / GDP, UAH million x 100
Deficit/surplus of budget and extra-budget funds in the general government sector, percentage of GDP	(General Government Deficit, UAH million – Consolidated Budget Deficit, UAH million) / GDP x 100
Level of GDP redistribution through the consolidated budget, percentage	Consolidated Budget Revenue, UAH million / GDP, UAH million x 100
Ratio of total payments for servicing and repayment of the state debt to state budget revenue, percentage	(State Debt Service, UAH million + State Debt Repayment, UAH million) / State Budget Revenue, UAH million x 100

Source: *Methodological Recommendations for Calculating the Level of Economic Security of Ukraine (2013).*

The first indicator, which reflects the ratio of the state budget deficit/surplus to GDP, allows assessing both budget and macroeconomic risks. It helps to analyse the impact of fiscal policy on the financial system, balance of payments and domestic demand.

This indicator is changeable: up to a certain level it stimulates, and with further growth it becomes a disincentive; its optimal value is in the range of -2 to 3%.

The second indicator, the share of the budget and extra-budget fund deficit in GDP, is calculated under the IMF methodology and is key for countries planning to get a loan from that organization. Its optimal value is zero. The general government sector includes the state budget, local budgets, as well as social and pension insurance funds.

The third indicator – the level of GDP redistribution through the consolidated budget – shows the number of financial resources redistributed through public finance, reflecting the level of centralization. The optimal value of this indicator is in the range of 25-28%; both excessive (over 37%) and too low (less than 18%) values are critical.

The fourth indicator is the ratio of total payments for servicing and repayment of the state debt to state budget revenue, also calculated according to the IMF methodology. This indicator is a disincentive and its optimal value is 6%; the values over 16% indicate a critical state of public debt (Dakhnova and Hnid, 2019).

Trend analysis and a scenario approach are used for forecasting, which enables the reduction of the risk of forecast inaccuracy. Scenario analysis is implemented by determining confidence intervals or trend confidence intervals, which is an effective method to avoid possible errors while preparing forecasts.

Defining confidence intervals facilitates the identification of the widest possible range of variations for the forecasted indicator, considering both the trend equation and the variability observed in the dynamic series. To achieve this, the adjusted mean square error of the forecasted trend function value (S_p) is computed, enabling an estimation of the fluctuation boundaries around the trend.

$$S_p = \sqrt{\frac{\sum (y_t - \overline{y_t})^2}{n-2}} \cdot \sqrt{1 + \frac{1}{n} + \frac{3(n+2L-1)^2}{n(n^2-1)}}, \tag{1}$$

where:

y_t and $\overline{y_t}$ are the values of the items in the actual series and the series calculated using the trend equation;
n is the number of items in the dynamic series;
L is the sequence number of the forecast year (Diebold, 2024).

Within the scenario analysis, confidence intervals are determined using the standard error associated with the respective forecasted value. For instance, the lower confidence interval for the forecasted value of the examined indicator is computed employing the following formula:

$$\overline{y}_{t+L} - t_a \cdot S_p, \tag{2}$$

where:

$\overline{y}_{t+L}$ is the forecast value of the indicator calculated using the trend formula in each of the L forecast periods;
t_a: tabular value of the t-test with $n - 1$ degrees of freedom (Nakonechnyi, 2005).

The upper confidence interval of the forecast value is calculated using the formula:

$$\overline{y}_{t+L} + t_a \cdot S_p, \tag{3}$$

In the scenario analysis, the forecast values of the indicator should always be between the lower and upper confidence intervals, which guarantees a certain accuracy of the forecast under different conditions. The area formed by the upper and lower intervals on the graph outlines all possible scenarios, including the worst and best possible scenarios. This makes it possible to build strategies based on different possible scenarios and minimize the risk of false predictions. This approach allows for the estimation of the probability of different scenarios, providing more accurate forecasts.

4. Research Results and Discussion

Using the methodology for calculating the budget security indicators presented in Table 1, their dynamics in 2013-2023 are analysed (Table 2).

Table 2. *Dynamics of budget security indicators for Ukraine in 2013-2023*

Indicator	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1. State budget deficit to GDP ratio, %	-4.25	-4.92	-2.27	-2.95	-1.60	-1.66	-2.04	-5.19	-3.64	-17.62	-20.39
2. Deficit of budget and extra-budget funds in the general government sector, % of GDP	-1.24	-0.99	-2.05	-1.04	-1.79	-1.66	-1.16	-2.31	-2.44	-1.94	-4.38
3. Level of GDP redistribution through the consolidated budget, %	29.08	28.74	32.79	32.82	34.08	33.26	32.45	32.82	30.45	42.31	47.48
4. Ratio of total payments for servicing and repayment of the state debt to state budget revenue, %	33.85	48.11	57.07	38.02	59.75	37.84	40.14	54.38	42.46	36.84	25.63

Source: *State Statistics Service of Ukraine (2024); National Bank of Ukraine (2022; 2023; 2024); Ministry of Finance of Ukraine (2024a, 2024b).*

These figures in Table 2 highlight a notable decline in budget security during the second year of the full-scale invasion. Specifically, the state budget deficit surged beyond 20% of GDP, surpassing the critical threshold of 10%. Additionally, the deficit of budget and extra-budgetary funds within the general government sector exceeded the critical limit of 3%, climbing to 4.4% of GDP.

Consolidated budget revenue also rose to 47.5% of GDP, well above the critical benchmark of 37%. Concurrently, the government successfully restructured and postponed debt obligations, achieving the lowest ratio of total debt servicing and repayment costs to state budget revenue in over a decade. Since early 2022, official foreign grants allocated to the general fund and charitable contributions to the special fund have increasingly become major components of the consolidated budget revenue.

Utilizing the guidelines from the Methodological Recommendations for Calculating the Level of Economic Security of Ukraine (2013), the determination of Ukraine's budget security level entails the use of suitable weighting factors and the normalization of the numerical data for the indicators outlined in Table 2, with standardized values presented in Table 3.

Table 3. *Results of standardization of the budget security indicators for Ukraine and calculation of its level in 2013-2023*

Indicator	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1. State budget deficit to GDP ratio (0.2671*)	0.550	0.416	0.946	0.810	1	1	0.992	0.032	0.672	0	0
2. State budget deficit to GDP ratio (0.2482*)	0.552	0.802	0.038	0.592	0.442	0.468	0.568	0.028	0.022	0.412	0

3. Level of GDP redistribution through the consolidated budget (0.2203*)	0.892	0.926	0.614	0.612	0.492	0.574	0.637	0.612	0.770	0.175	0.156
4. Ratio of total payments for servicing and repayment of the state debt to state budget revenue (0.2644*)	0.095	0.067	0.056	0.084	0.054	0.085	0.080	0.059	0.075	0.087	0.125
5. Level of budget security, %	50.5	53.2	41.2	52.0	49.9	53.2	56.7	16.6	37.5	16.4	6.7

Note: ** Weighting factor*
Source: *State Statistics Service of Ukraine (2024); National Bank of Ukraine (2022; 2023; 2024); Ministry of Finance of Ukraine (2024a, 2024b).*

The information presented in Table 3 reveals consistent patterns in the evolution of Ukraine's budget security amid ongoing military conflict. Between 2014 and 2021, the budget security level fluctuated between a low of 16.6% in 2020, classified as an absolutely dangerous threshold, and a high of 56.7% in 2019, deemed unsatisfactory yet nearing a satisfactory state. The onset of the full-scale invasion severely compromised Ukraine's budget security, driving it to a dangerously low 16.4% in 2022 and plummeting to an all-time low of 6.7% in 2023.

The classification of these budget security levels for Ukraine was carried out in accordance with the guidelines provided by the Methodological Recommendations for Calculating the Level of Economic Security of Ukraine (2013), as detailed in Table 4.

Table 4. *Budget security levels*

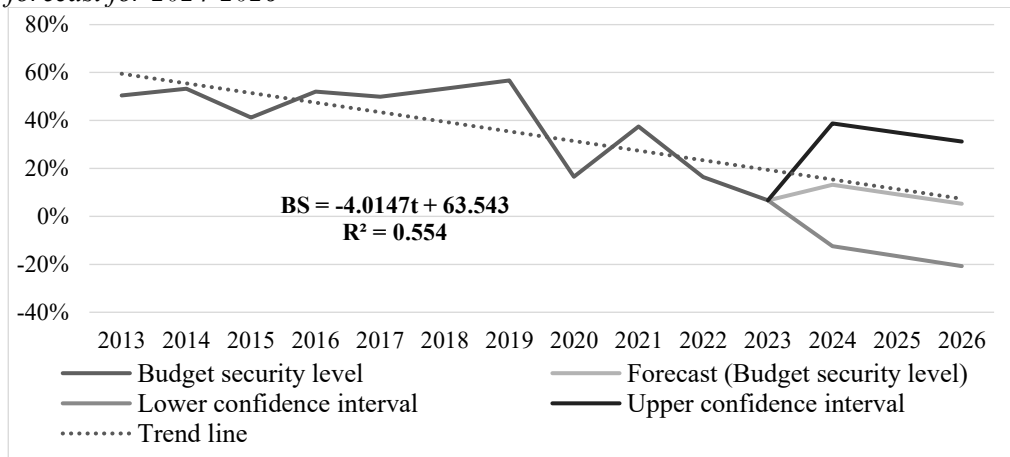
Budget security level	**Range of values**
Optimal	1.0 (or 100%)
Satisfactory	0.8-1.0 (or 80-100%)
Unsatisfactory	0.6-0.8 (or 60-80%)
Dangerous	0.4-0.6 (or 40-60%)
Critical	0.2-0.4 (or 20-40%)
Absolutely dangerous	0-0.2 (or 0-20%)

Source: *Methodological Recommendations for Calculating the Level of Economic Security of Ukraine (2013).*

Utilizing the data from Table 3, the budget security level of Ukraine for the period spanning 2013 to 2023 has been established, with the indicator's dynamics formalized through a linear trend equation, as depicted in Figure 1.

Based on the data in Figure 1, during the period under study, the level of Ukraine's budget security decreased by an average of 4% annually, and the reliability of the trend equation was 55.4%. The medium-term forecast is based on confidence intervals since the accuracy of forecasting deteriorates in crisis conditions under the influence of security threats. In the figure, the lower confidence interval consists of negative values, which is incorrect since the level of budget security cannot be less than 0.

***Figure 1**. Dynamics of the level of budget security in Ukraine in 2013-2023 and forecast for 2024-2026*



***Source:** State Statistics Service of Ukraine (2024); National Bank of Ukraine (2022; 2023; 2024); Ministry of Finance of Ukraine (2024a, 2024b).*

As for the upper confidence interval, it should be noted that under the optimistic scenario, the level of budget security may increase from absolutely dangerous to critical and stay in the range of 31.3-38.9%. The realistic scenario is that the level of budget security of Ukraine will remain absolutely dangerous, in the range of 5.3-13.2%, over the next 3 years.

To verify the accuracy of the calculations of the level of budget security of Ukraine (see Table 3 and Figure 1), a regression analysis of the dependence of the level of budget security of Ukraine (dependent variable) on 4 standardized indicators (independent variables) is conducted:

- state budget deficit to GDP ratio, %;
- deficit of budget and extra-budget funds in the general government sector, % of GDP;
- level of GDP redistribution through the consolidated budget, %;
- ratio of total payments for servicing and repayment of the state debt to state budget revenue, %.

The results of the regression analysis are presented in Table 5.

***Table 5.** Results of verifying the correctness of the calculation of the level of budget security using regression analysis*

Indicator	Coeff	St. error	t Stat	P-value	L 95%	U 95%
Intercept	0	n/d	n/d	n/d	n/d	n/d
State budget deficit to GDP ratio, %	0,2671	5,7959E-17	4,61E+15	6E-108	0,2671	0,2671

Deficit of budgetary and extra-budgetary funds of the general government sector, % of GDP	0,2482	8,5506E-17	2,9E+15	1,5E-106	0,2482	0,2482
Level of GDP redistribution through the consolidated budget, %	0,2203	8,8081E-17	2,5E+15	4,3E-106	0,2203	0,2203
The ratio of total payments on public debt service and repayment to state budget revenues, %	0,2644	5,1712E-16	5,11E+14	2,9E-101	0,2644	0,2644

Source: *Authors' calculations.*

The data presented in Figure 2 indicate a functional correlation between the level of budget security and the indicators, as the coefficients of multiple correlation and determination are equal to 1. The reliability of the calculations is confirmed by the values of the regression coefficients, each of which completely coincides with the corresponding weighting factor (see Table 3). Thus, the obtained level of Ukraine's budget security in 2013-2023 is reliable and can be used in further analysis of threats to Ukraine's budget security under the state of war and external threats to national security, which has been initiated in some research works (Hapieieva *et al.,* 2022).

Consequently, following a thorough evaluation, Ukraine's budget security exhibited an upward trajectory from 2013 to 2019, remaining within an unsatisfactory range, before escalating to a critical level in 2020 and a dangerous level in 2021. With the onset of the full-scale invasion, budget security plummeted to a critical 16.4% in the first year, and by 2023, it hit an unprecedented low of 6.7%, teetering on the edge of an absolutely dangerous threshold. Under these conditions, optimizing the funding of public expenditures and enhancing collaboration with international supporters and creditors have become essential.

The analysis of a large number of scientific papers and materials on budget policy issues has made it possible to identify several major problems and threats to Ukraine's budget security, such as:

- imperfection of the legal and regulatory framework governing the budget sphere, especially in terms of ensuring the budget process;
- mistakes in budget planning that reduce the efficiency of financial resource management;
- untimely adoption of the state budget and delays in approving reports on its implementation;
- inefficiency of control over receipts and expenditures of budget funds, which increases the risks of illegal use of funds;
- lack of transparency of state and local budget expenditures, which leads to inefficient and illegal use of budget funds;

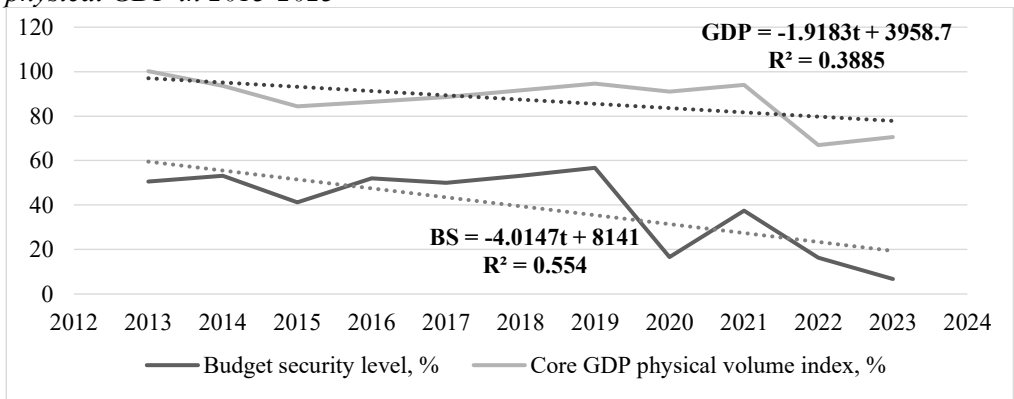
- imbalance of the state and consolidated budgets, which contributes to difficulties in covering the budget deficit:
- imperfection of the accounting system and implementation of budgets at different levels, which complicates financial control and management;
- problems of inter-budget relations and financial equalization mechanisms that worsen the efficiency of budget resource allocation (Baranetska and Buchkovska, 2016; Kravchuk *et al.,* 2010; Yermoshenko, 2001).

The above indicates the need for improvement of the regulatory framework and mechanisms of control over budget processes to strengthen Ukraine's budget security. Thus, improving the level of budget security of Ukraine under martial law is a critical issue. To this end, the following measures are proposed:

- Reallocation of budget funds in favour of defence and socially important programs that have a direct impact on national security and the well-being of the population. An audit of government programs and projects to identify and eliminate inefficient or duplicative spending is recommended.
- Strengthening of counteracting tax evasion and optimization of tax legislation to simplify procedures, reduce the administrative burden on business and stimulate economic growth.
- Enhancing collaboration with the International Monetary Fund, the World Bank, the European Union, and other global partners to guarantee that critical financial assistance is channelled effectively into vital economic sectors and the social domain.
- Stimulation of small and medium-sized businesses, attracting investment in infrastructure projects, providing soft loans, subsidies and grants for entrepreneurs to create jobs and revive economic activity (Dimitrov *et al.,* 2019a; Dimitrov *et al.,* 2019b).
- Further development of fiscal decentralization and anti-corruption policy to contribute to more effective financial management, increased responsibility of local authorities, ensuring transparency and accountability of public finances (Shevchuk and Martynenko, 2020).
- Restructuring of the state debt to reduce the debt burden on the budget, and the development of programs for issuing domestic government bonds and primarily military bonds to bring additional revenue to the state budget from the domestic market (Martynenko, 2015).

The suggested measures are designed to enhance budget security and sustain the nation's economic stability (Bondaruk et al., 2023). Nevertheless, establishing a formalized assessment of how budget security levels influence economic growth should serve as the foundation for crafting strategies to address the recession and mitigate the effects of military invasion. To evaluate this impact on Ukraine's economic growth, the analysis relies on the annual dynamics' ratio of two primary indicators: the level of budget security and the basic index of physical GDP, as illustrated in Figure 2.

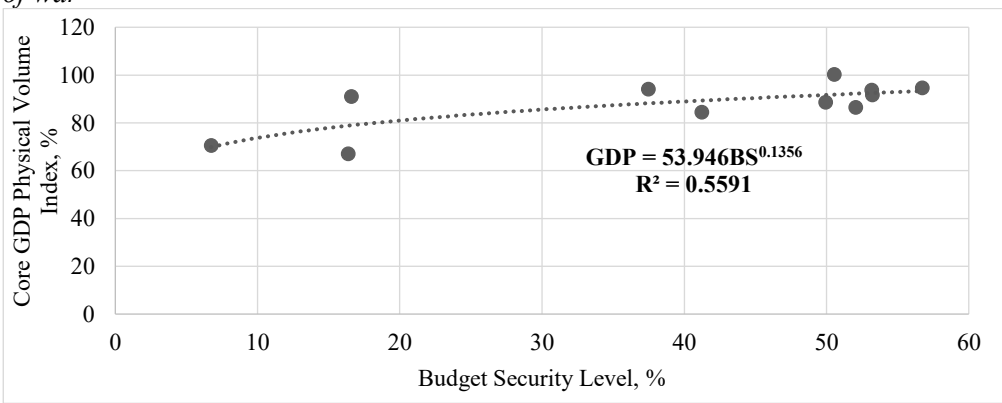
Figure 2. *Comparative dynamics of the level of budget security and the basic index of physical GDP in 2013-2023*



Source: *State Statistics Service of Ukraine (2024); National Bank of Ukraine (2022; 2023; 2024); Ministry of Finance of Ukraine (2024a, 2024b).*

Figure 2 shows a downward trend in the level of budget security and the physical GDP index throughout a large-scale invasion. At the same time, the average annual loss of Ukraine's real GDP was -1.9%, with a confidence level of 38.9%, and the level of budget security was -4.0%, with a confidence level of 55.4%. This means that military threats have a strong influence on the budget security of Ukraine and significantly reduce its level over time. Wartime threats have an average impact on Ukraine's real GDP but accelerate its decline by half as much as the fall in the level of budget security. The results of the formalization of the impact are illustrated in Figure 3.

Figure 3. *The impact of budget security on Ukraine's economic development in times of war*



Source: *State Statistics Service of Ukraine (2024); National Bank of Ukraine (2022; 2023; 2024); Ministry of Finance of Ukraine (2024a, 2024b).*

Based on the data in Figure 3, it can be concluded that there is a high-density stochastic correlation between budget security and the real GDP of Ukraine, with changes in

GDP accounting for 55.9% of changes in budget security. At the same time, a 1% increase in the level of budget security leads to real economic growth of +0.14%.

The results of this study are consistent with those of previous research on the economic impact of armed conflicts on macroeconomic indicators of countries. Under the conditions of war, the budget security of Ukraine has significantly deteriorated, which is confirmed by numerous economic studies on the impact of armed conflicts on state finances. For example, the studies by Flores-Macías and Kreps (2017), Smith (2014), Baddeley (2008), and Boyce (2007), prove that armed conflicts lead to an increase in budget deficits, as public spending on defence and social needs rises significantly.

That phenomenon is also observed in Ukraine, where the state budget deficit has reached critical levels, and the values of budget security indicators suggest a threat to economic stability.

However, there are some limitations in this study. First, the data used in the analysis does not cover the entire territory of Ukraine due to the loss of control over the occupied territories. This creates a certain distorted image of the condition of the budget, as a significant part of Ukraine's financial obligations remains unaccounted for. Second, the study depends on the availability of reliable statistical data, which may be inaccurate due to the ongoing war. Some statistical data may be incomplete or outdated, which affects the accuracy of the calculations.

Another limitation is related to the use of the Methodological Recommendations (2013) for calculating budget security, which do not fully take into account the current reality of the war and the economic decline of Ukraine in the years 2022-2023. The dramatic change in the economic situation as a result of the war requires a review of existing approaches to assessing budget security, which may require modernization or even the creation of new indicators, to reflect the real situation.

In their future research, the authors will consider the identified limitations and expand the analysis to cover new aspects of budget security, in particular, the impact of international financial aid and public debt restructuring on budget sustainability.

It is important to investigate how international financial support affects Ukraine's economic stability and whether it can become a permanent factor in budget security. Moreover, it is worth paying attention to the role of private investment and domestic consumption in budget stabilization.

Another promising area of research would be the development of scenario models to forecast further changes in budget security, taking into account the possible end of the war or its prolonged continuation. Such an approach would allow for a better assessment of the threats to budget security in different scenarios.

Therefore, the investigation into budget security amid armed conflict yields significant insights; however, additional research is essential to gain a deeper understanding of the war's long-term effects on the Ukrainian economy.

5. Conclusions

In the course of implementing the scientific task of a comprehensive assessment of Ukraine's budget security in the context of military threats, the authors have made the following conclusions.

Firstly, the Russian aggression, which has been ongoing since 2014, has contributed to a significant decrease in the economic stability and security of Ukraine. Due to the occupation and takeover of approximately 20% of its territory, Ukraine's economy suffered a significant loss, including a 29.1% drop in GDP in 2022. It was possible to achieve stabilization of the economy in 2023, with growth at the level of 5.3% and activation of investments. However, budget security concerns remain due to the large public debt and a high budget deficit.

Secondly, budget policy is a critical tool for influencing economic development. The level of budget security is assessed using several indicators, such as the budget deficit, GDP redistribution through the budget, or public debt service. In the years 2014-2023, those indicators deteriorated. In particular, the budget deficit exceeded the critical level in 2023, and the level of budget security fell to 6.7%, which is considered dangerous. The situation requires reforming the budget policy to preserve sovereignty and economic development, as well as the need to strengthen control over public finances and the effective use of borrowings.

Finally, a comprehensive set of actions must be undertaken to bolster budget security. This includes streamlining public expenditure and enhancing oversight to ensure the effective utilization of budgetary resources. Prioritizing the reduction of the budget deficit is crucial, achievable through curbing wasteful spending and intensifying efforts to combat corruption. Additionally, reforming the borrowing framework to alleviate the debt burden is vital.

Concurrently, boosting budget revenues by fostering economic activity, particularly through attracting investments and supporting small and medium-sized enterprises, is essential. The adoption of these measures will promote the stabilization of Ukraine's financial framework, diminish reliance on debt, and pave the way for sustained economic growth moving forward.

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